SEQUENCE LISTING

<110> BEASLEY, Ellen et al <120> ISOLATED HUMAN KINASE PROTEINS, NUCLEIC ACID MOLECULES ENCODING HUMAN KINASE PROTEINS, AND USES THEREOF <130> CL001078DIV <160> 5 <170> FastSEQ for Windows Version 4.0 <210> 1 <211> 1864 <212> DNA <213> Homo sapiens <400> 1 cgagtgcgct gctgagtcct gtagataaag ccgccaaccc cggggactgg tgtctcctga 60 gtgaccgtgc agccgtgggc gccatagaaa gcagagaagg cagtgaactt cgaccacttc 120 cagateette gggecattgg gaagggeage tttggeaagg tgtgcattgt geagaagegg 180 gacacggaga agatgtacgc catgaagtac atgaacaagc agcagtgcat cgagcgcgac 240 gaggteegea aegtetteeg ggagetggag ateetgeagg agategagea egtetteetg 300 gtgaacctct ggtactcctt ccaggacgag gaggacatgt tcatggtcgt ggacctgcta 360 ctgggcgggg acctgcgcta ccacctgcag cagaacgtgc agttctccga ggacacggtg 420 aggetgtaca tetgegagat ggeactgget etggaetace tgegeggeea geacateate 480 cacagagatg tcaagcctga caacattctc ctggatgaga gaggacatgc acacctgacc 540 gacttcaaca ttgccaccat catcaaggac ggggagcggg cgacggcatt agcaggcacc 600 aageegtaca tggeteegga gatetteeae tettttgtea aeggegggae eggetaetee 660 ttcgaggtgg actggtggtc ggtgggggtg atggcctatg agctgctgcg aggatggagg 720 ccctatgaca tccactccag caacgccgtg gagtccctgg tgcagctgtt cagcaccgtg 780 agegtecagt atgtececae gtggtecaag gagatggtgg cettgetgeg gaageteete 840 actgtgaacc ccgagcaccg gctctccagc ctccaggacg tgcaggcagc cccggcgctg 900 gccggcgtgc tgtgggacca cctgagcgag aagagggtgg agccgggctt cgtgcccaac 960 aaaggccgtc tgcactgcga ccccaccttt gagctggagg agatgatcct ggagtccagg 1020 cccctgcaca agaagaagaa gcgcctggcc aagaacaagt cccgggacaa cagcagggac 1080 agctcccagt ccgagaatga ctatcttcaa gactgcctcg atgccatcca gcaagacttc 1140 gtgattttta acagagaaaa gctgaagagg agccaggacc tcccgaggga gcctctcccc 1200 gcccctgagt ccagggatgc tgcggagcct gtggaggacg aggcggaacg ctccgccctg 1260 cccatgtgcg gccccatttg cccctcqqcc qqqaqcqqct aqqccqqqac qcccqtqqtc 1320 ctcacccctt gagctgcttt ggagactcgg ctgccaqaqq qaqqqccatq qqccqaqgcc 1380 tggcattcac gttcccaccc agcctggctg gcggtgccca cagtgccccg gacacatttc 1440 acacctcagg ctcgtggtgg tgcaggggac aagaggctgt gggtgcaggg gacacctgtg 1500 gagggcattt cccgtgggcc cccgagaccc gcctagatgg aggaagcgct gctgggcgcc 1560. ctcttaccgc tcacggggag ctggggccat ggatgggaca ggagtctttg tccctgctca 1620 gcccggaggc tgtgcacggc cctcgtcaca aggtgaccct tgcagcacag gccgcgggtg 1680 ccccaggctc ggctcagttc ttggaggtca agggcatggg ttgggqtagt gggtggggag 1740 gtgaatgttt tctagagatt caaactgctc cagcaatttc tgtatagttt tcacctctga 1800 aaaa 1864 <210> 2 <211> 369

<212> PRT

<213> Homo sapiens

```
<400> 2
Met Tyr Ala Met Lys Tyr Met Asn Lys Gln Gln Cys Ile Glu Arg Asp
Glu Val Arg Asn Val Phe Arg Glu Leu Glu Ile Leu Gln Glu Ile Glu
His Val Phe Leu Val Asn Leu Trp Tyr Ser Phe Gln Asp Glu Glu Asp
                         40.
Met Phe Met Val Val Asp Leu Leu Gly Gly Asp Leu Arg Tyr His
                     . 55
Leu Gln Gln Asn Val Gln Phe Ser Glu Asp Thr Val Arg Leu Tyr Ile
                  70
                                    75
Cys Glu Met Ala Leu Ala Leu Asp Tyr Leu Arg Gly Gln His Ile Ile
              85
                                90
His Arg Asp Val Lys Pro Asp Asn Ile Leu Leu Asp Glu Arg Gly His
                            105.
          100. . . . . .
Ala His Leu Thr Asp Phe Asn Ile Ala Thr Ile Ile Lys Asp Gly Glu
                         120
                                    . . . 125
Arg Ala Thr Ala Leu Ala Gly Thr Lys Pro Tyr Met Ala Pro Glu Ile
                   . 135
Phe His Ser Phe Val Asn Gly Gly Thr Gly Tyr Ser Phe Glu Val Asp
                  150
Trp Trp Ser Val Gly Val Met Ala Tyr Glu Leu Leu Arg Gly Trp Arg
              Pro Tyr Asp Ile His Ser Ser Asn Ala Val Glu Ser Leu Val Gln Leu
                            185
Phe Ser Thr Val Ser Val Gln Tyr Val Pro Thr Trp Ser Lys Glu Met
                         200
                                           205
Val Ala Leu Leu Arg Lys Leu Leu Thr Val Asn Pro Glu His Arg Leu
                          215
Ser Ser Leu Gln Asp Val Gln Ala Ala Pro Ala Leu Ala Gly Val Leu
                  230 . . . . . . 235.
Trp Asp His Leu Ser Glu Lys Arg Val Glu Pro Gly Phe Val Pro Asn
              245
                                 250
Lys Gly Arg Leu His Cys Asp Pro Thr Phe Glu Leu Glu Met Ile
          260 .
                             265.
Leu Glu Ser Arg Pro Leu His Lys Lys Lys Arg Leu Ala Lys Asn
       Lys Ser Arg Asp Asn Ser Arg Asp Ser Ser Gln Ser Glu Asn Asp Tyr
                                       300
                     295
Leu Gln Asp Cys Leu Asp Ala Ile Gln Gln Asp Phe Val Ile Phe Asn
                 310
                                   315
Arg Glu Lys Leu Lys Arg Ser Gln Asp Leu Pro Arg Glu Pro Leu Pro
                                330
Ala Pro Glu Ser Arg Asp Ala Ala Glu Pro Val Glu Asp Glu Ala Glu
                             345 350
        . 340
Arg Ser Ala Leu Pro Met Cys Gly Pro Ile Cys Pro Ser Ala Gly Ser
                         360
Gly
```

```
<210> 3
```

<211> 25603

<212> DNA

<213> Homo sapiens

.400- 2						
<400> 3	2000000000	attaggaaag	aggatagtag	taaataaaaa	tatataaaaa	60
	aggccacatg					
	tectgtetgg					
	acgggaagcc					
	ggaaggcgtg					
	ggcagaggga					
	caagcgacag					
	ggcgccgctc					
	agcagcaaga					
	tgagggccgg					
	acaaacagcc					
	ccgtctgcag					
	ctgtgcagag					
	cgtgtgcatg					
ttggcagtgg.	gaagcggcag	gagggggtcc	tgccaggggc	agccaggggc	tgctgcagct	840
tacgctcact	gtcattctga	aaccctcaac	tggctttcaa	aataacaatt	taaaaaatgg	900
tcataggaaa	tgcaggaagt	tcaggagaaa	tcccgccccg	ccccgccctc	ccaaggcggc	960
ctcgttcaag	cttagtctcc	gtctgttctc	gggctgcctg	cagctgcccc	cgctcctcag	1020
caggtgtggc	cgcgtgttca	ggagccccca	tcagcacacg	cgcctctggg	cagcccccaa	1080
cacaaggctc	ttcctgtccc	ttcaggctca	gctttcccct	cccaccgggc	agggaggtgc	1140
tgaggccacg	cctgttgtca	gcttcctgga	gaggccatac	ttagagccca	tggtgccagg	1200
	gtctcccgca					
caccatcaga	catgctttct	tagtttgggc	cagcccggtg	ctctgtgcac	agtgtgactc	1320
	cttgcgggag					
	tccagtaagg					
	aaccagtaca					
	ccagaacaaa					
	gttgttaatc					
	agttcagtgg					
	ccttctcagt					
	gcagccagga					
	ccaggccccc					
	ttggaaacgg					
	ggggttagct					
	tcatcctcaa					
	ctcacccgtc					
	cagtgttgac					
	tggcgccccg					
	tctgtgtgtc					
	gtcggtctct					
	aggetteetg					
	ctccgggctg					
	ctccatgccc					
	tccaactcac					
	gacagatgtg					
	ctaacagcca					
	agtacaggaa					
	agagcaaata					
	aggggctgcg					
	cccatgcatt					
	gccctgtgcc					
	gaagtacatg					
	gctggagatc					
	tggcctcgct					
	tgcccttggt					
acaggeeeee	tctagccctc	CCCacctatt.	coccutations.	cyccccayyc	ccggcagcgg	3300

```
cccaggtggc catgacatgc tggggttggt taatgcagtg tctcttctga gcctgccgga 3360
agaccagggc ttccctacaa tggagatgtg ctcccatgga gtctctggca ctagtcagag 3420
agggagagag tttagggact gaaaaactca ccactgtcat caccatcacc atcaccacca 3480
tcatcgccat caccaccacc atcaccactg caaccatcat cactctcatc accatcatca 3540
ctataatcaa cacaatcact attgtcacca ccattaccac caccaccacg accacaatca 3600
etgttateae cateaceaec acceteagte etcaetaceg teatecteae cateacegte 3660 -
accaccacca ccatcactgc catcgtcaac accatggatg ctggttgtta aatgccagct 3720
ctttgcccaa cactgtcaag agtggtacct acacggcctc attttctgta acaaccctcc 3780
gaggcaaatg tctgtatccc cattttaccg aagaggaggc cgggcagcct gaagcacccg 3840
gagetggeae tgtagetetg etetgeattt gecaeteeca ggtgeetetg geceeagetg 3900
ggccacctcc agcacagggt ggtgtctt tcctcaggat ctgggctcag agctgctctg 3960
ggctggggtg caatcagtgc cttgggcagg cccctcctcc tgggaatgcc tggtggctga 4020
tgctggggtg gggctgtggt ccttaggggg agtgtgtcag ctgtgggagc agccatgact 4080
ggctccccag ctgtgcgcac aacaggcctt ccatcggtgc ccacaggtac tccttccagg 4140
acgaggagga catgttcatg gtcgtggacc tgctactggg cggggacctg cgctaccacc 4200
tgcagcagaa cgtgcagttc tccgaggaca cggtgaggct gtacatctgc gagatggcac 4260
tggctctgga ctacctgcgc ggccagcaca tcatccacag gtgtgtgcgt ggcagacggc 4320
gcaggtacct gctgaggtgg gcggggctga agcagcctta ggtcaggctg ccggcacggc 4380
ggccgtactc cctcagagcg ggtctagctc ctctgcccca cccttgcctg agtgcctgcc 4440
cccagctgtg gcacctgtgc cgaccaggtc agccccatag ctgtgtgcct ggtgtccatc 4500
tggggggacc tcgtcccagc agccccagct gagactgggc acagtgggct gttagccctg 4560
gtggacagac caccaggctg ggtcacagca ggtggccttc acctggtcca tttaactgaa 4620
gactcctgtt tgcccatcca ccacatccca gggaatccaa actaatttta acattagctt 4680
aaagcagatg aaattaggaa gcagagctgg tgtgatggct ctgaaaataa aatttaaaaa 4740
aagaaaatag gaagcagatt atgaaggaag tgaaattggg aagcagaaat taggctgaaa 4800
ttccgcagca atggaacaaa atgaaaatat ctgtgaggta tattttaaag tcgaatggac 4860
tggtgtttgc atttctgctc ttggggactc ggatgtctga ttatgaccta ggcaccagtc 4920
actgagcact ggctgtgtac ctggaaaagt tgggacaaag caagagccga ggtggcttgg 4980
totoctagag googagtott ggagggggag ggoagacoot gooagcaatt gototogtoo 5040
tetggggete caggeceet eccageatet ggtgecaggt gtgtgetget geccagatge 5100
cacagggaac gaagtggctg acttcatcgc ctctgccccc acgcaggggt gtgaggtcct 5160
agcatcatcc aaggaccaag tcaagctccc aggcctctgc ctcgagtggg ttggtgggat 5220
gtcctgggga ctccagggat tgtgacagag attccagggc agaaacaggg cagattccca 5280
actcacette ceaetttetg etetttetag agatgteaag eetgacaaca tteteetgga 5340
tgagagaggt gtgtggggtt gggtgtgggc agcccaggtg ggtggtggca gggatgggcc 5400
tgtcagggga ggaggatcct gcacgcaagg atgcatctct ggtcctggga cagccacacc 5460
tgacccctct ctgcacagga catgcacacc tgaccgactt caacattgcc accatcatca 5520
aggacgggga gcgggcgacg gcattagcag gcaccaagcc gtacatgggt gagcccgagc 5580
tggggttcca gatgggagct ggcttcctcc aggtgggaag gacaagacct cggtggcttc 5640
tetgteecac cetggaggea geetggtete gggatgtgge eteaaggtge eggeeetgtg 5700
cccacgggtc cgggctgtga ccccgtggca gctgtttttc cttctttctg tcggaaagct 5760
ccggagatct tccactcttt tgtcaacggc gggaccggct actccttcga ggtggactgg 5820
tggtcggtgg gggtgatggc ctatgagctg ctgcgaggat gggtatggac cccctgcagc 5880
ccccgggctt ggctgccagg cccctgctct ctgcccccac cagtgctggg gagggggtgg 5940
ctgccccagt gcccaggtgc gcagggatgt ctccactgtg tctgaggagt cacgctttta 6000
tcgaagtgtg tagttggtga tggaatgcct gagcaggagg aggaaggaca gactcactgt 6060
ggtttcccgg ggccgctgct ggtgcctgca ggccagcctc tgtgggggtg gacaaggctg 6120
agaactggcc agcaggggtg ctgcctcgga actttccaca aaaagtttct tttggggccc 6180
tgtgctctta cccttgtggc cacggcgagg ccagtcctgg agaccgggag gctgggggtc 6240
ctcttgtgga ccgtacccct cagccctgca caggacccca cctctgagga agccagctcc 6300
ctcctggccc tctgggqctq atctacctqq acccaggccc cctqqqatcc caqccagatq 6360
ggcgcagcag ccagggcgca ggacccaggc gtaagcttta tctcacccag gctcctccgc 6420
ggcaggtgga ggccaggctg tgctcagagc tgtgcctgca cttggggtgg ggggaggggg 6480
tecteteagg gegatggeac etgtgtetgg cattgttetg ggtgteetgg gggeeaggag 6540
gacctgccca gcactgcctc cctgtctcca gaggccctat gacatccact ccagcaacgc 6600
cgtggagtcc ctggtgcagc tgttcagcac cgtgagcgtc cagtatgtcc ccacgtggtc 6660
caaggagatg gtggccttgc tgcggaaggt gagccccat ccctgagcct cctcaccctc 6720
```

```
cgagcaccca cctccctccc tcacttacct gcggctcggg acaccccctc cagtgcacag 6780
ttagtgccgc ttcctggcag gcacagatcc cttcactgca acctgtgggg gcctccgcag 6840
atggcagccc caagccccag gaagcgagct ggtggcaggc tctgtggccc tctcatggcg 6900
agccctacca ggtcactggt gtcctggtga tcccctgagc tgcgtctcca ggcaccctca 6960
cagcaggett gtgcgcccgc cctgccggtc accacagagg agccctgagc cacgtcccct 7020
tgtcccacgt attggaagga gggtgtcggg tgggtgggtt caagcccatg ctatctccgg 7080
gaccetttge cecagtgeet eetggggaag gtgggeagee aetgeeeact geaaacacet 7140
ctcaggggac atcagcctgg cagggacacg ggcaggggtg tgqccatcag taqtqcctcc 7200
catttgtgat ctggtgctag gctggggctg tgccttgact gggctgcaca gctccctgtt 7260
cegageeteg cattaacace atagggggtt eggagteaga gecaggeeca ggeaggaeag 7320
ggaggggagt gagtgtgcca cacgggcccg gctgcctccc ggcccccgtg tctcaggcag 7380
gtggggcctc ctgccctgga attgtagcca agcagcctaa agccttgggg aggccttgcc 7440
tgccggggcc tctccccagc cccgagagtc tcttaactct gctgtagccc catgaagctc 7500
agtcacacct gcccaggtgg ctcacaaggt ggcactgggc tagagagggc ctgcgtgggg 7560
actggggatg acccacacgc ccaagcccag gtctgggaaa cctcgcacgg ggtctgggtc 7620
tgcggcattt tccctggaaa ggcgggaggt gccagcgctg ggatgttgct tcccaggcca 7680
tgcatggctg ccccgggctc atctggcctg tggaggtccc atgattcggt gaaggaagtg 7740
gctctgggat agttactgtg aggccagcca tgtgccgagt gttagccgct agccgggcct 7800
cggctgccac ctcctggcaa atcccagcag agccttccct gcagatccct ctgctgtcct 7860
ctggcgccag gggtttaggt agcagcactg agaacaggcg tcccttgggc cacatgctga 7920
gccagccacg gtgctttgcc tgatgtcggc cgtcggcacc accettcctc gcgtggccct 7980
gaggttcctg aattctgaac ctgaggcttg gtgggaccct cctcaaggtg ccctggcctg 8040
ggggtggcgg gctattccgt gctggtgggc tgtgggccct ggaccctctg actcatgcct 8100
ggttgcagct cctcactgtg aaccccgagc accggctctc cagcctccag gacgtgcagg 8160
cagccccggc gctggccggc gtgctgtggg accacctgag cgagaagagg gtggagccgg 8220
gettegtgee caacgtaage etgtgggegg etcaggtggg gggeeetggg gatggatgtg 8280
gegteeteea egggeegggg eteageacee atecetetgt agaaaggeeg tetgeactge 8340
gaccccacct ttgagctgga ggagatgatc ctggagtcca ggcccctgca caagaagaag 8400
aagcgcctgg ccaagaacaa gtcccgggac aacagcaggg acagctccca gtccgtgagt 8460
gccagggcag gctcagggcg cggcggggg ctgggcttgg ggctcctctc taccaccgag 8520
caaggtgtgt ggggacccct gacagtgcac acgtctcgga agtccagcag accgtttcct 8580
gaagtcctga gaaggccaga gacctccctt ctgcctttcc cagcccccac ctcgctcctt 8640
atgaagcagg tgggcaggga caaccagggc tggggttatg agtgcacggg gatggccatg 8700
tgaagcette gtgettgeee aggtgtgetg gtgttggttg tgtgtgeggg gaeggetatg 8760
tgaagccctc acactegccc aggtgcgtcg gcatcaggta tgtgtgccgg gacagccatg 8820
tgaagccete acaeteacce aggtgegteg geateagttg tgtgtgtggg gaeggeeatg 8880
tgaagccete acaetegeee aggtgtgetg getttggttg tgtgtgeagg gatggeeaca 8940
tgaagccete acaetegeee aggtgegtea geateaggtg tgtgtgeggg gaeggeeatg 9000
tgaagccctc acactcgccc aggtgcgttg atgttgtgtg tgcagggatg gccatgtgaa 9060
gccctcacac tcacccaggt gcgttgatgt cagttgtgtg tgcagggaca gccatgtgaa 9120
gccctcagac tagcccaggt gtgtcggtgt cagttgtgtg tgtggggatg gccacgtgaa 9180.
gccctcacac ttgcccaggt gcgttgatat tagttgtgtg tgcagggatg gccacgtgaa 9240
gccctcacac tcacccaggt gcgttgatgt cagttgtgag tgtgcgcagg gatggccaca 9300
tgaagccete agactegeee aggtgtgetg getttggttg tgtgtgeagg gaeggeeatg 9360
tgaagccctc acactcgccc aggtgcgtca gcatcagttg tgtgtgtggg gacggccatg 9420
tgaagccctc acactcaccc aggtgtgtcg acatcagttg tgtgtggggg gacggccatc 9480
tgaagccctc acactcaccc aggtgtgtcg gtgtcagttg tgtgtgcggg gatggccacg 9540.
tgaagccctc acacttgccc aggtgcgttg atattagttg tgtgtgcagg gatggccacg 9600
tgaagccctc acactcaccc aggtgcgttg atgtcagttg tgagtgtgtg cagggatggc 9660
cacgtgaagc cctcagacta gcccaggtgt gctggctttg gttgtgtgtg cagggacggc 9720
catgtgaagc cctcacactc gcccaggtgc gtcagcatca gttgtgtgtg tggggacggc 9780
catgtgaagc cctcacactc gcccaggtgc gtcagcatca gttgtgtgtg tggggatggc 9840
cacgtgaagc cctcagacta gcccaggtgc gtcggcatca ggtgtgtgtg ccgggacagc 9900
cacgtgaagc cctcacactc gcccaggtgt gccggctttg gttgtgtgtg cggggacggc 9960
cacgtgaagc cctcatgctc actcaggcat gctggtattc tggggctgcc aggacaggtg 10020
accacgaatc aggtggttga agaacagcaa tgcgtctctc tgagaggatc tgagtcgtaa 10080
tgaaatggtc tccttcacag ccggctgtgc gtgaactact ctgtctcctg cagctcccct 10140
```

```
gtcttgataa ttggctgtct aggcagcggg taaggtgaac cccttgggca gttatgtgat 10200
gateteagtt tetgtaaace ggaagteeag geatggtgea getetgttee etgetteggg 10260
gtctcaccag aatgtgagct aacattgagg tcgtggcctt gtcaggtgca gctctgtttc 10320
ctgcttctgg gtctccccag agtgtgagct aatattgtct gaggtcgtgg tctcatcagg 10380
gatttgacag gtgctgtggt tgaaatgttt cccttaaaac tcgtgttgga atttgcttcc 10440
tattgtgatg gtggtagaga tgggactttt gggggctgat ggggccacgt aggttcttcc 10500
agcatggatg gggttaatgc tgttgtagaa gggtgacttt agtcctcttt tgagtctttg 10560
atcctctgct atgtgaggac gtggttgttcc caatgtggac gtggttcgtg ttccatgtga 10620
atgtgatatt cacaatagag catcaacagg ctccctttta atcagcagat ttaaaaagaa 10680
atgtgttgtc tcatggcttg gaggcctgag tccaaagtta agatgtcagc aaagccgtgc 10740
cccctctgaa ggctctccgg ggaggaaaac cagtccttgc ccctctaccc tccggtagag 10800
gctgccttgg cctagacgca tcccccagc ccctgcttcg ctgccgcgtg gggtcggcct 10860
gtgtgtgcgt ctccatctcc tcccctcttc tcataaggac accaggcatt ggatttaggg 10920
cccaccctga tccagtatgg ccccatctta tcttgatgat atctgcaaag acctcacttc 10980
caaatgaggt cacattcaca ggtacccagg attagaattt gagtgtgtca tttttgggga 11040
cacagtttgg cccataccac caggatgtgg ctgatattca ccaaggagta gctatggttg 11100.
tgtgttgatg tcagggtgac ggtgatgacc ctgggtccct cggtggtccc cttgcccctg 11160
agtetgeetg ageetgtggt ggatgteetg ggaaactett gtgeeteage eecegtgeag 11220
cctcctcaga cctggtgggc cctgtgttgc tcctgggcag aagacgggtg tcagtcccct 11280
cctcaccatg atgtgggggg caggggtggg gtcatgccct gggtgccctg attttggggg 11340
gaacacggcc ccccagtggg tcaggctccc atcctcgccc ctcctccagg acggctgccg 11400
gcagccctgg gtgtcctcag gcagaattgc tggtggagag ctgctgtctg ccaggtggcc 11460
actgtgaggc actgctgaga gccacaggat ggttggaagg ttctcgggggt tgggggttct 11520
ttggcattgc ccccattgga tgtttaagtt ttccctacca gagcatgtcc agagccaggg 11580
ctctqqqqtq taqaaacagg cccaqqatqa qttaqqaacc ctcatqggag actcagggat 11640
ggacagtgtg cagagcccag ctggccatgc tgagttccca ggaggctctg gctgggaaca 11700
ggtaaggcca ggcacctgtg agcgggagga gctcggcttt gtcttgggtt ggttgtgtgg 11760
agatgttttg gcttgagggt aggaggtgtt ctgaaaggaa agcatcactc caaaaaaaaa 11820
gtcccactgt taaccttgag gctgagagag gtttttggaa acagctttat tttgatataa 11880.
ttcacattcc atgcaatata cagtgcatcc atgtaaagca tataattcca tggtttttaa 11940
tatagtcaca gggctgtgca ttctccacca caatctgatt ttagaacctt ttcatgtaat 12000
gtaagagaaa gaccccacct attaqcagtc atgccccatt cccctcttct cccctcccct 12060
ggcagccacg aagctacttt ccgtctctgt agggttgcct gttgtgggcg tttcatggaa 12120.
gtggagttac acactatgtg gtctttgcag ctggcttctt tcacttcgca ggatgctttt 12180
gaggcccgtc cacgttgtag cctgtcagtg cttcattcct gttgatggct gagtaatatt 12240
ccacatatgt atcacctttc ctttatccag tcatcagttg atgagtattt gttctttcca 12300
cttgttaaca tttttcatta tcatgaataa tgctgctgtg aacattcaca tacaagtctt 12360
tgtgtggata tgtactttta tttttggggg gcacatacct aggcatgaac ccgctgggtc 12420
atatgtgact ctgtgcttca tgtttggagg aaacacctac ccttttctac agcaggtgtg 12480
ccattttatg cccctaccag cagtgtgtga gggttctaat ttctccatat atttaccaag 12540
tcctgttatt gtctggttta tttttttaaa aatcatagtt atcttagtgt gcagtgattg 12600
tgtggttatg gtttgcattt ctctgatgat attgaacatc ttttgaggtg ttttatcagg 12660
cattgtgtct agagaaatgt ctatccaaat gttttaaaat ttttattgtc ttttttttag 12720
tctactctga caatatattt taattggcat atttatttta ctttattttt ttttagagac 12780
agggtcttgc tttattacca aaactggagt gcagtggtgc aatgaaggct cacttcagcc 12840
ttgacttcct gggctcaagt gatcctccct gcccagctg ccagaatggc tggaactgtg 12900
ggtgtgcacc accacacctg gctcatttga aaaaaatttt gttgtagaga cagggtctca 12960
ctatgttgtc caggttggtc tcaaactctt ggagtcctcc cacctcagcc tcccaaaatg 13020
ctgggattac agatgtgagc cactgtgcct gacctaattg gtgtatttta gaccattcac 13080.
atttaaagcg accagggagg ctgaggcaag aggactgctt gagtccagga gtttgagacc 13140
agcctgggca acaaggtgag acccatctgt attagtctat tttcacactg ctaataaagg 13200
catacctgag tctgggtaat ttatacagga aaaaggttta atggatttac agttccacat 13260
ggctggggag gcctcacagt cgtggaaggc aaggaggaga aagtcacatc ttacatggat 13320
ggcggcaggc aaagagaga cttgttcagg gaaacttttg tttttaaaac catcggatct 13380
catgagactc attractatc atgacaacag cacaggaaag acccgcccc ataattcaat 13440
cacctcccac caggittcctc ccacaacatg tgggaattgt gggagtcaca attcaagctg 13500
agattgggat ggggacagag ccaaaccata tcattctgcc ccagccctc caaaatctca 13560
```

```
tgtcctcaca tttcagaacc aatcatgcct tcccaacagt cccccatagt cttattttgg 13620
cattaactca aaagtccaca gtccaatgtc tcatctgaga caaggtaagt cccttctgcc 13680
tatgagtctg taaaatcaaa agcaagtgac ttcctagata caataggggt acaggcattg 13740
ggtaaattca gccattccaa atgggagaaa ttggccaaaa caaaggggct acaggcccca 13800
tgcaagtctg aaatccagca ggcctgtcaa atcttaaagc ttcaaaatga acatctttga 13860
ctctatctct cacatccagg tcatgctgat gcaagagttg ggttcccatg gtcttaggca 13920
getetgeeet tgtggetetg cagagtacag cetteeteec ggetgettte gtgggetgge 13980
attgagtgtc tgtggctttt ccaggtgcat ggtgcaagct gttggtggat ataccattct 14040
ggggtgtaga ggatggtggc cetettetea gagetecaet aggeagtgee ecagtgggga 14100.
ctttgtatag gggcaccaac cccacatttc ccttctgcat tgccctagca gaggttctcc 14160
atgagggccc cacccctgca acaaacttct gcctggacat ccaggtgttt ccatacatcc 14220
tctgaaatqc agqcagaqqc tcccaaacct caattcttga cttctgtgca cctgcggqct 14280
caacaccaca tggaagctgc cacagcttgg ggcttgtacc ctctgaagcc acagcctgag 14340
ctgtaccttg gcccctttca gtcatggctg gagcagctgg gatgcagtgc agcaagtccc 14400
tagactgcac acagcagagg gaccctggac ctcgcccatg aaaccatttt ttcctcctag 14460
gcctctgagt ctgtgatggt aggggctgcc gcaaaggtct gtggcatgcc ctggagacat 14520
tttccccatt gtcttggtga ttaatattca gttccttgtt gcttatgcaa atttctcctc 14580
tgtcacccag gctggagtgc agtggtgcaa tggcggctca ttgccactgc aacctccgct 14700
tectaagtte aagtgattet cetgteteag ceteceaagt agetgggatt acaggeaege 14760
accaccacac ccagctaatt tttgtatttt tagtagagaa gggtttcacc atgttggcca 14820
ggctggtctt gaactcctga cctcaggtga tctgcctgcc ttaacctccc aaagtgctag 14880
gattacaggc gtgagccacc gtgcccagcc aggagtttct tttctattgc attgtcaggt 14940
tgcaaatttt ttgaactttt atgctgtttc ctttttaaaa tggaatgcct ttaacagcac 15000
ccaagtcacc tcttgaatgc tttgctgctt agaaatttct tctgccacat accctaaatc 15060
atctctcaaa ttcagagttc cacaaatctc tagggcaggg gcaaaatgct gccagtctct 15120
ttgcttaaag cataacaaga gccacctttg ctgtagttcc caacaagttc ctcatctcca 15180
tetgagacea acteageetg gaetteattg tecatateat tateageatt ttggteaaag 15240
ccattcaaca agtotctagg aagttccaaa ctttcccaca ttttcctgtc ttcttctgag 15300
ccctccagat ggttccagcc tctgcctatt acccagttct aaaaagttgc ttccacattt 15360
tcaggtatca tttcagcagc gccctacttt actggtacca atttactgta ttagtctgtt 15420
ctcacgctgc taataaagac atatccgaga ctgggaaatt tatacaggaa aaaggtttaa 15480
tggacttaca gttccacatg gctggggagg cctcacaatc atggcggaag gcaaggagga 15540
gcaagtcaca tcttacatgg atggcagaga gagcttgtgc agggaaactt ttgtttttaa 15600
aaccatcaga totoatgaga otoattoact atcatgacaa cagcacagga aagacccgcc 15660
cccataattc aatcacctcc cactgggttc ctcccatgac acacgggaat tgtgggagtc 15720
acaattcaag ctgagattgg ggtggggaga cagccaaacc ttatcaccag ctctataaaa 15780
gacaaaaaaa ttaggcaggc ataacagtgc atgcctgtag ttccagtgat gtgagaggat 15840
tgcttgagtc caggagtttg agaccaggct gggcaacatg gcgagaccct gtctctacaa 15900
aaaaaaatta totgggtgtg gtgggataca cotgtgatac cagotacgca ggaggotgag 15960
gcagtaggat tgcttgagcc caggagttca aggctgcagt aagctatgat catgcccctg 16020
cactccagtc tgggtaacag agagacacgc tgtcttgtaa ataaataagt ggtcatttat 16080
atagttcaat atgatatcta cettatttgt aactgtagte tatttattgg tetteetttt 16140
tccctatttt tctgcctttt ctggttttaa ttaagcattt tatattattc tagtttatct 16200
cctctcctgg cctgttaatt atacttcttt ttgaaatatt tttagtggtt ggcctggaca 16260
ttgcagtata cctttaccat acagtctacc ttcacctgac actctgcccc ctcatgtgca 16320
gtgggatgcc ttgtgacggc acctctcgtg caatcctcct gttcctgatg acattgctgt 16380
cattcatttc atttatctgt atgctataat tgctcattac attgttacta ctgttatttt 16440
aaacagttat cttttggatc aattaagaaa aattaaaaaat ttcattttac ctctattcat 16500
tcctcctcta aagtgcttcc tttctttatg cagacccaag ttgctgacct aaatcatttt 16560
cctttcccct gaggaacttc gtttaacatg tcttatagga caggtccaac agagatgaat 16620
tecttecett titigtitgte caaaaaagte titaetitea eetitaaaga ataatiteae 16680
tggatataga attctagatt ggtaggtttt ttactttcaa cactttaaat atttcactcc 16740
gctctcttct tgcttatgtg atttctaaca ggcagtctgc tctaattctt tttctgtaag 16800
tagaattcct cgccacccc caccccagc tcatttcaag attttctctg tctttggttt 16860
tctgcaattt gaataatgat atgcctaggt acagattttt ttttaatatt cattctgctt 16920
ggtgttctct gagcttctta gatctgtggt ttggtgtctg tcattaattt cagaaaattc 16980
```

ccagtcatta ttatttcaaa tattctgttc tctttctctt ctcctgctgg aaatccaatt 17040 atgtgtgtgt ggtgccgttt gaaattgtcc cacagctctt ggatattctg ttcattttt 17100 tcactctttt ttttttctct ttgcatttca gttcgagaag tttctgttga catttcttca 17160 ageteataga teetteetea tetggateea gtetaetgag gaaceateaa aggeateete 17220 atttctgtta cagtgttttc tacttccagc atttcctttt gatccctcct tggagtttcc 17280 atctctctac ttacattgcc cttctgttcc ccatctgttc ttgcctgctt ttcccctgga 17340. gcccttgcca tattaatcac agttatttca aatttcctgt ttgataattc caacatgggt 17400 gccatatctg gatctgttct aatgtgtgca ttgtctcttc acactctatt tttttcctta 17460 agaccttgta gtctgccttg taatgtttgt tgaaagctgg acgtgatgta tctggtaata 17520 agagctgaag tagatgggcc tttagtgtga ggtttatgta atctggccag gtttggggca 17580 gggtttaaag tetgetgtag etgtgggtae eagaggette acatttgttt teattteeeg 17640 ggttgccctt gggcttgcct aaatcctcct cctcagagag agtctgcgtc ttgtggccct 17700 ctctgctgga atccctgtca cactgcggag gccctgtggg tgtgttggga agatggtggg 17760. gagggaactg ttccacagtc tgtgaccaaa tctcagtctt gggggcctgt gccccttcac 17820 agttgttgat ctgcttttcc cctcccctta ggtgagacag gctaaagcgg ggtacaggct 17880 tgtggagaat getetgggtg tattteaeag tggtgaetgt eeccateeea tgeeagagee 18000 aggaagggat catcettgge tteattaaga eetggeaggg tteetggagg ggaaaceeac 18060 aaaacgttgg gggcctcata agaccgcagc cgcaggagtt ctgcacacgg ccccggccgc 18120 tccccagagc tgcccaggag gtgttcccgc acaccatcag ttctgctcca ggccagcagg 18180 teteagetgt gaetttgete acetgtetet ceagaettgg gggtegeege agegetttga 18240 cctcagctct ctgatgggtc caggaaaagt aattgatttt cattagttca gcatttttcc 18300 ccttgctcgt ctctgtgttt cttcgtcgga gtcatgtctt ttatttcctg aacgcaggtg 18420 tgtggtcaga caggagattg gcaggtattt cctcctgttc catgggctat cttttctctt 18480 tcttgagggc atcatttgca gcagggaagt cttggacctt gacgttgtcc gatgtggctg 18540 tttcctcctt ggctgctctg ctttgtctaa ggatccatca cctcagctga ggccacaggg 18600 atttactccc acactttctt ctaagtcttg tatagtttca gctcttgcgt ttagctgtgt 18660 gattcatttt gggttaattt ttatgaacaa tgtcaggtga gggtccagct tcattctctc 18720 ateggtggat atetgactgt cetageacea tttgetgaag agaggattet tteeceattg 18780 aattgctttt gacatcatac cttgtttttt gacttgccgt tttatcccat tggtccagac 18840 gtctgccctg cgccgggact gcaccatctt gataactgta gctttgtagc aagctttcaa 18900 atcaggatct gtgaatcccc cagttttgtt ctttttggac attatttgac tattctgggt 18960 ccctggcatt tccactgaat gctgagggt ctgacagttg catctgagct gccaagcagg 19020 tttgtggcgg tgctagggac tgaagcetgc tccatttccc aggcccctcc tcgctgtggg 19080 tgacatctgg ggtccgaggc tgtgtctcag catgtgtgaa ggtgccacgg gtgccctgag 19140 atggggattc ctggtccagt tactcagaaa gtgcatccag gagagacccc cgcccttctc 19200 gggatgggag atgccagcag agcttggctt tcaagcagaa atctggaaac cctgtgggga 19260 agggagetgg geteteaaac acceaeaca gteagteatg ggegaaggge ceetetgtgg 19380 ccttctgact gtgtgtgtgc tggcaaaggg ttccagccac ccaaggagga ggcaggggct 19440 gtcagaggaa gagcagggca gatccaggcc aggcacagac cctgccatgg ggtactgctg 19500 geggegetae acacacettg ggaagggaqt ceetgtggaa aggggtegtg gteacacate 19560 taggtgacac agcccggctt gggcgctgct cagagccacc ccttccagat ggttctggag 19620 cageteetea ggettetggt ggeetetetg eetaggaaaa catggetgtg gaegttgeag 19680 gatgaccaac agcccctgcc actgggctgc acacagggcc acgacgggcg ctcatgttct 19740 acatcactgg cgcccacccc agcccctccc accttgtgtc gctgtgaatc gcaggatccc 19800 ageggeteag teggaceete atteetgagt agtetgagee ttaggteace gteacettet 19860 caggccggcc cgagtttgca gacttgtctg tctatatcag ggttagacca gagagtgctg 19920 agacacagca gatcacccag cctgtcctct tcttgatgac taaggacagg tcccctgcca 19980 ggatcgtgac tcctttaggg gaggccacag tgacagggca aagcctggag ggagagagcc 20040 acatggagag gagagggctg cccgcagaga gcgtgggagt ctgccggctt cttctcgagt 20100 cettggcaag gtgetggeeg etcacacegt gtacgtgtgg ggaacgeeca ggaccagggt 20160 gacaccacca ggaggagcgg gcgggacagt ccccactcag ggctaggaag agagagtcca 20220 catteceget gecagggtga aaceeteaca ecaceacaga tecaggagag acaeggaggg 20280 cactgcctcg gggtggggaa cgtgagctgc tccccaaacc caagaaatgt gttgagccct 20340 atgetteett eetegtggga agaggegeaa ggtgagaeeg ettgteettt atettggegg 20400

```
gcacgtccga gtgtgacgca cgtcagcaaa tccctgaacc gttcatcgga gaacagcctt 20460
ctgcatctcc cacactctgt tcgtgggttt acagggtgtc cagagtactt gccacttggc 20520
aatcagcatt aataggatcc acagggccag gcatggtggc tcacgcctgt aatctcagca 20580
ctttgggagg ccgaagcagg cggagcacct gaggtcagga gttcaagact ggcgtggcca 20640
acatggtgaa accccgtctc tacaaaaatt agctgggtat ggtggtgggc acctgtaatc 20700
ccagctactt gggaggctga ggcagcagaa tcacttgaac ctgggaggcg gagttggcag 20760
tgagccaaga tcacgccact gcactctagt ctgggtgaca gagcgagacc aaaaatagga 20820
tccatggata gcaggcaaga gtgtccaggt gttcgaggca cagacgacac tgtgacaggg 20880
aagagtcccc ttagccctgg ctggggccgt gaaagcatgc tgttgtccgt ctcgggtgaa 20940
cgcagactgt tgtcacgcat tgcataacga tgcttccgtc actggccaat cgcatggggg 21000
ggtggtcccg taagatggta acactgggtt ttgctgtacg ttttgtatgt ctagataggg 21060
ttgagcgttc tggtgtgtac ccactcacac gtcccctccg accttcagag cccagctccc 21120
teeeteecag ggeettgget gtgaegtggg tgaetteeta tggatetgag gttetgtggt 21180
cctcacaagt gggcatcctc tggcctcagc tgcaggaggt gggggccctt ttaatgccac 21240
ccgaggcctg cgactccctg cacttttcac tgtgacttgg ctcatctggg tctgtcattt 21300
gctcacgcgt tggtagtgac caacgtcacc atccaagttc acggtcacca taatgatgct 21360
cccgacccct gcgtcctggg aagtggtcct gctgcctgaa ggaagtagtc ctgcctgccc 21480
atcacacacc agtaagggtg ggtcctgcca ggggcagcct ccgtccacaa gcttgccctg 21540
aggacctgct tctaagacag ccctggttcc aggattctct gggcagggcc ccagaagcag 21600
gcctgggaca ggtgtgtgtg tgctgtgatg aggggctggg agaacccggt atgagacggg 21660
aaaggcccgg caagggagtg gtttccagca aagtcccgca gagaacagct tctgcctggt 21720
cctgcaggcc ccacggagca agtccaagcc atccacccag aggcaaggga gctgggcctt 21780
ggcatceteg ggcttgggtg agtcaceege agagatgega geteeeeggg cagtetgget 21840
gctggagggc cggggcactt caaatagccc agaggccgtc atccaaagcc acaggtggag 21900
gcccgatggg gatgcccaga cactcacttg aggggacatg ggcggaacct ggacagcgtc 21960
ccccacgctc acgtgtgcct ttccatccac aggagaatga ctatcttcaa gactgcctcg 22020
atgccatcca gcaagacttc gtgattttta acagagaaaa gtgagtgtgt tgggggtggg 22080
tgggcgtggt ggcagagagg aggaaaatgg ggctaaggtt aaggttttct tggccacgtg 22140
agegggeace tgtgggeetg gggtgegtgg ceetgetete tttggggaet etgageagea 22200
gctatggagg ggagcggcgg gaggcccctg ccaggctctg gcatgtttgt gctccacgcg 22260
gggcccgtgg ctggaatctt ctggggagag acacatcatt tgcccagatg aggggtggtg 22320
acttectagg aggececate agagecaegt caacteecee acceaggeae geecteagte 22380
teteageaga cettteetga atgteaggee eeaggggaca gaaagggeac agatgaetgg 22440
cagcaggcaa ggcaggccag aaatagcagc agctgccacg gtggggccca agggaggatg 22500
gatgeteeet etgeeegeac ggggeaagga gggeeteetg gaggaggtgg gtetgagete 22560
ttatggacag gacgtgcagg gcagcacgtg cagacggctg agggcactga ctggcaccct 22620
ggggatcaga cgaccgggtg aagaatgagg cttagccgag cctcattccc aagtcactga 22680
cctatggcac ctgcacagtc aggcctttcg gcttctggct ggaaacatgc cgagcctcgc 22740
cagcatgete acgtgeecee accegteece aggeteectg ccagtgtgte gggageatgg 22800
cetetecage agacacegag cetgtggece aegtttggge atecaegeca tggeetatee 22860
catgageceg tgggeaggte atgggacegt gaggecaggg aggtggggge ataacgeeet 22920
ccatgtgttc ctgccacccc aggctgaaga ggagccagga cctcccgagg gagcctctcc 22980
cegecectga gtecagggat getgeggage etgtggagga egaggeggaa egeteegeee 23040
tgcccatgtg cggccccatt tgcccctcgg ccgggagcgg ctaggccggg acgcccgtgg 23100
tectcacece ttgagetget ttggagaete ggetgecaga gggagggeca tgggecgagg 23160
cetggcatte acgtteccae ceagectgge tggcggtgce caeagtgcce cggacacatt 23220
tcacacctca ggctcgtggt ggtgcagggg acaagaggct gtgggtgcag gggacacctg 23280
tggagggcat ttcccgtggg cccccgagac ccgcctagat ggaggaagcg ctgctgggcg 23340
ccctcttacc gctcacgggg agctggggcc atggatggga caggagtctt tgtccctgct 23400
cagcccggag gctgtgcacg gccctcgtca caaggtgacc cttgcagcac aggccgcggg 23460
tgccccaggc tcggctcagt tcttggaggt caagggcatg ggttggggta gtgggtgggg 23520
aggtgaatgt tttctagaga ttcaaactgc tccagcaatt tctgtatagt tttcacctct 23580
gagaattaca atgtgagaac cgctcgatgt tgcatgttct gcgtacgtcc tgtgtctgcc 23640
tggccgtcag gccggtgcct gccgtttctg gttggcctgg acttggggca gccagtgggg 23700
tgggcagete etcagggcag agetecegga ceatggettt ggggtgggtg cetgteteeg 23760
tggccctgga gccgtaaggc tgtggaaggc agagacggtc ctggaggcag aggagcccag 23820
```

```
gacageaceg tgcacegtgg ageegeegea gtgcegggca gtgcttggcc ctccataaag 23880
ggacgtatcc ctctcactgt ggctgggtgg ttctgtggtt ggaactgtaa ctaactgggt 23940
aaacggcctg tgtgcttctc tctggtctcg ctggaggagg acgggctcag cccgtcagcc 24000
cagcgctcca gacaggcctg tgctggtttc ctctgaggaa atgggtgtgg cgggtctgtg 24060
ccccttccca ggacagcggc catagtggac atgtgcctag acctgtgtcc atgaqcccca 24120
ctgcacccct ggcaaacagg gccctcccgt ccttggctgg gctgcgagat ggagatgaca 24180
acggccaaag aacatttggg gaagaaccgg ccatgccacg agcagagtca gaagtccgag 24240
qqgataqaat gcagcttccc qtcccccacc cacccctqtc ctctqaatca tqqcaqaaac 24300
tageetteea geeeteagea geteacatgg gggacaegge acceaaatea ceaceaggaa 24360
gggtggcccg gtctctgcga gggcccagag gcgccgtgta ctcggtggaa gtctgqcqat 24420
gtcagagaca ggctcggggc aaggacaggt gtgggggttt gaataagtgc atttggggaa 24480
catggcaggg tggtgcacct tgtccttctt cgagacactg gtgaggtgtg ggtgctgtct 24540
ggttcccttg atcgccccc acactggggc agagtgggag atgctggtgt gggggacatc 24600
agctcccaca tctgggccag agggagcccc gggaaggaaa tgctgagggc ccagggcctt 24660
cgcctgggat ctgcacagct ttataagcag cccagggtga gagatgggcc tgtctgtggt 24720
tcccagagac cacggcagga aattctctgt caccatcggt gcatgggcag gggccagaga 24780
accggtggca caaggtgtcc ctggctctct gctcaacaaa cagcgagtgc ccagtgactg 24840
cgaccaggcc ccgctcttgg gatgaggaca accgtctggg aacgtccacg caccctttat 24900
gagacacage acgcgccage accgcagtea cacaccgggg getegggtea geeteatage 24960
tgcccggcct tgagtgctgg gcctgcgtct gtgagcagcg cccacctggg tggcggtggt 25020
gtgtgcttca cttccacaca ctcccgtgca tgctccccgg ccttctgggg tggctcgggc 25080
tgtccggtga gaatgtaggc ggggggggg gggggcctct gtcccgccct ggatgttggc 25140
tgccctctgc cccgccctgg atgttggctg ccctgccggc catcttccct gtgagagggt 25200
gegeteetee etgecattga ggggagaaga getgeggetg caggagtegt eggaceagee 25260
cacagecage caggeceege etgtgcagag acggegtggg ggagaggaga eggggeette 25320
cttccatgca caggcggctt caaacccaga cgtctttaat gggcctgatt cacatcagag 25380
gcaggatgac tgcctgtcca ggcggtgggt ggcatgcaca ggttcctggc tacagtgtcc 25440
tcagtgtaca aagctgctac taagaagcct acggaaatac acaatctgta ataagaggac 25500
agtgtcttcc taaaggatcg caaaacttcc ctqqatqaqq qctacatqqa aqcttaqqtq 25560
tgggccttgg ggtgcgtaaa agggaccctc cacgggcggg gct.
                                                                  25603
<210> 4
<211>, 399
<212> PRT
<213> Mus musculus
<400> 4
                 5
                                    10
```

145

Val Asn Phe Asp His Phe Gln Ile Leu Arg Ala Ile Gly Lys Gly Ser Phe Gly Lys Val Cys Ile Val Gln Lys Arg Asp Thr Glu Lys Met Tyr 20 25 Ala Met Lys Tyr Met Asn Lys Gln Gln Cys Ile Glu Arg Asp Glu Val 40. 45 Arg Asn Val Phe Arg Glu Leu Glu Ile Leu Gln Glu Ile Glu His Val 55 60 Phe Leu Val Asn Leu Trp Tyr Ser Phe Gln Asp Glu Glu Asp Met Phe 70 75 Met Val Val Asp Leu Leu Gly Gly Asp Leu Arg Tyr His Leu Gln 90 Gln Asn Val Gln Phe Ser Glu Asp Thr Val Arg Leu Tyr Ile Cys Glu 105 Met Ala Leu Ala Leu Asp Tyr Leu Arg Ser Gln His Ile Ile His Arg 120 125 Asp Val Lys Pro Asp Asn Ile Leu Leu Asp Glu Gln Gly His Ala His

Leu Thr Asp Phe Asn Ile Ala Thr Ile Ile Lys Asp Gly Glu Arg Ala

, , , **155**

135

150

140

```
Thr Ala Leu Ala Gly Thr Lys Pro Tyr Met Ala Pro Glu Ile Phe His
               165
                                  170
Ser Phe Val Asn Gly Gly Thr Gly Tyr Ser Phe Glu Val Asp Trp Trp
                              185
                                      . . . . 190
Ser Val Gly Val Met Ala Tyr Glu Leu Leu Arg Gly Trp Arg Pro Tyr
                          200
Asp Ile His Ser Ser Asn Ala Val Glu Ser Leu Val Gln Leu Phe Ser
               . . 215
                                         220
Thr Val Ser Val Gln Tyr Val Pro Thr Trp Ser Lys Glu Met Val Ala
                   230
                                   ... 235
Leu Leu Arg Lys Leu Leu Thr Val Asn Pro Glu His Arg Phe Ser Ser
               245
                                  250
Leu Gln Asp Met Gln Thr Ala Pro Ser Leu Ala His Val Leu Trp Asp
         260
                              265
Asp Leu Ser Glu Lys Lys Val Glu Pro Gly Phe Val Pro Asn Lys Gly
       275
                          280 285
Arg Leu His Cys Asp Pro Thr Phe Glu Leu Glu Glu Met Ile Leu Glu
                      295
                           .
                                          300
Ser Arg Pro Leu His Lys Lys Lys Lys Arg Leu Ala Lys Asn Lys Ser
                                    . 315
                   310
Arg Asp Ser Ser Arg Asp Ser Ser Gln Ser Glu Asn Asp Tyr Leu Gln
               325
                                 330.
Asp Cys Leu Asp Ala Ile Gln Gln Asp Phe Val Ile Phe Asn Arg Glu
                              345
Lys Leu Lys Arg Ser Gln Glu Leu Met Ser Glu Pro Pro Gly Pro
                         360
                                             365
Glu Thr Ser Asp Met Thr Asp Ser Thr Ala Asp Ser Glu Ala Glu Pro
                      375
                            , . . . . . . . 380
Thr Ala Leu Pro Met Cys Gly Ser Ile Cys Pro Ser Ser Gly Ser
                   390
```

<210> 5

<211> 368

<212> PRT

<213> Macaca fascicularis

<400> 5

Met Tyr Ala Met Lys Tyr Met Asn Lys Gln Gln Cys Ile Glu Arg Asp Glu Val Arg Asn Val Phe Arg Glu Leu Gly Ile Leu Gln Glu Ile Glu 20 25 His Val Phe Leu Val Asn Leu Trp Tyr Ser Phe Gln Asp Glu Glu Asp 40 Met Phe Met Val Val Asp Leu Leu Gly Gly Asp Leu Arg Tyr His 55 Leu Gln Gln Asn Val Gln Phe Ser Glu Asp Thr Val Arg Leu Tyr Ile 70 Cys Glu Met Ala Leu Ala Leu Asp Tyr Leu Cys Gly Gln His Ile Ile 85 90 His Arg Asp Val Lys Pro Asp Asn Ile Leu Leu Asp Glu Arg Gly His 105 Ala His Leu Thr Asp Phe Asn Ile Ala Thr Ile Ile Lys Asp Gly Glu 120 Arg Ala Thr Ala Leu Ala Gly Thr Lys Pro Tyr Met Ala Pro Glu Ile 135 140 Phe His Ser Phe Val Asn Gly Gly Thr. Gly Tyr Ser Phe Glu Val Asp

145 150 155 Trp Trp Ser Leu Gly Val Met Ala Tyr Glu Leu Leu Arg Gly Trp Arg 165 170 Pro Tyr Asp Ile His Ser Ser Asn Ala Val Glu Ser Leu Val Gln Leu 185 Phe Ser Thr Val Ser Val Gln Tyr Val Pro Thr Trp Ser Arg Glu Met 200 Val Ala Leu Leu Arg Lys Leu Leu Thr Val Asn Pro Glu His Arg Phe . 215 220 Ser Ser Leu Gln Asp Val Gln Ala Ala Pro Ala Leu Ala Gly Val Leu 230 235 Trp Gly His Leu Ser Glu Lys Arg Val Glu Pro Asp Phe Val Pro Asn 245 . 250 Lys Gly Arg Leu His Cys Asp Pro Thr Phe Glu Leu Glu Met Ile 265 260. 270 Leu Glu Ser Arg Pro Leu His Lys Lys Lys Lys Arg Leu Ala Lys Asn 275 280 285. Lys Ser Arg Asp Asn Ser Arg Asp Ser Ser Gln Ser Glu Asn Asp Tyr 295 300 Leu Gln Asp Cys Leu Asp Ala Ile Gln Gln Asp Phe Val Ile Phe Asn . 315 310 Arg Glu Lys Leu Lys Arg Ser Gln Asp Leu Pro Ser Glu Pro Leu Pro 325 330 Ala Pro Glu Pro Arg Asp Ala Ala Glu Pro Val Glu Asp Glu Glu Gln 345 Ser Ala Leu Pro Met Cys Gly Pro Ile Cys Pro Ser Ala Gly Ser Gly